

TITLE: ENUMERATION AND ISOLATION OF LACTIC ACID BACTERIA WITH PROBIOTIC POTENTIAL

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ABSTRACT:

The habit of eating healthy food becomes increasingly important as it is an alternative for the improvement and/or prevention of various diseases, especially those of gastrointestinal origin in both humans and animals. Lactic acid bacteria (LAB) are the main representatives of probiotics in foods, providing beneficial effects to the host's health. The LABs can be easily found in the most diverse environments, particularly in dairy foods. Thus, the aim of the work was to enumerate, isolate and characterize LABs. In this study, two cheese samples (Q1 - artisanal cheese produced from raw milk without inspection and Q2 - artisanal cheese produced from raw milk and inspected by the Municipal Inspection Service (S.I.M)) and two samples of kefir grains obtained by donations from families that cultivated the grains in UHT milk (K1) and fresh milk boiled (K2) were obtained aseptically. Serial dilutions were performed and plated in duplicate by spread plate on MRS agar. The plates were incubated in anaerobic jars at 30 ° C for up to 48 hours. The colonies were enumerated and those with distinct phenotypic characteristics were collected and transferred to MRS broth. For the phenotypic characterization, the selected colonies were tested for the differential staining of Gram and the catalase reaction. The bacterial counts in the different samples ranged from 1.0×10^7 to 1.2×10^9 CFU/g. Of the colonies grown in Petri dish, 121 were isolated. Of the isolated colonies, 100% are Gram-positive, in the form of cocci and catalase negative. The arrangement varied between streptococci and diplococci. The obtained isolates stand out as promising microorganisms with potential for use as probiotics, since LAB are Gram-positive microorganisms, presenting as bacilli or coccus and catalase negative. Due to the importance of the beneficial effects and health promotion conferred by the use of LABs it is necessary to evaluate the probiotic properties of lactic acid bacteria isolated in this study.

Keywords: cheese, functional foods, lactic acid bacteria, kefir

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